

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1-10. (Canceled).

11. (New) A base station apparatus comprising:

a calculator that calculates a receiving weight, for reception of a RACH signal, prior to reception of a preamble section of the RACH signal;

a receiver that receives the preamble section, by an adaptive array antenna, in a plurality of receiving directivity patterns set, using the receiving weight, prior to the reception of the preamble section;

a preparer that prepares a delay profile of the preamble section per receiving directivity pattern;

a correlation level detector that detects a correlation level per receiving directivity pattern using the corresponding delay profile; and

a preamble detector that detects the preamble section using the detected correlation levels.

12. (New) The base station apparatus of claim 11, further comprising:

an estimator that estimates a direction of arrival of a dedicated physical channel signal, wherein:

the calculator calculates the receiving weight based on said direction of arrival.

13. (New) The base station apparatus of claim 12, wherein the plurality of receiving directivity patterns are used to divide communication terminals into groups, based on the direction of arrival of a dedicated physical channel from each of the communication terminals, and a receiving directivity pattern is determined for each group.

14. (New) The base station apparatus of claim 11, wherein the receiver receives, by the adaptive array antenna, a message section following the preamble section in a directivity pattern that is the same as at least one of the plurality of receiving directivity patterns.

15. (New) The base station apparatus of claim 14, wherein the receiver receives the message section in a directivity

pattern having the best receiving state among the plurality of receiving directivity patterns.

16. (New) The base station apparatus of claim 14, wherein the receiver receives the message section in a subset of the plurality of directivity patterns having the best receiving state.

17. (New) The base station apparatus of claim 11, further comprising a transmitter that transmits an AICH signal in a transmission directivity pattern that is determined based on at least one of the plurality of receiving directivity patterns.

18. (New) The base station apparatus of claim 17, wherein the transmitter transmits the AICH signal in a transmission directivity pattern determined based on the receiving directivity pattern having a highest receiving level of the preamble section.

19. (New) The base station apparatus of claim 17, wherein the transmitter transmits the AICH signal in a transmission directivity pattern determined based on a subset of the plurality of receiving directivity patterns having the highest receiving levels of the preamble section.

20. (New) The base station apparatus of claim 11, further comprising a despreader that uses a despreading timing of the preamble section, which timing is detected using the detected correlation levels, as a despreading timing of a message section following the preamble section.

21. (New) A radio communication method comprising:
calculating a receiving weight, for reception of a RACH signal, prior to reception of a preamble section of the RACH signal;

receiving the preamble section, by an adaptive array antenna, in a plurality of receiving directivity patterns set, using the receiving weight, prior to the reception of the preamble section;

preparing a delay profile of the preamble section per receiving directivity pattern;

detecting a correlation level per receiving directivity pattern using the corresponding delay profile; and

detecting the preamble section using the detected correlation levels.